

Amendments to the Drawings:

The attached replacement drawing sheets make changes to Figs. 1, 3 and 4 and replace the original sheets with Figs. 1, 3 and 4.

Attachment: Replacement Sheets

REMARKS

Claims 9-16 and 18 are pending in this application.

By this Amendment, Figs. 1, 3 and 4 are amended to more accurately depict the disclosed structure. For example, horizontal lines are added to elements 3 and 4 in Fig. 1. The top part of element 3 in Fig. 3, that was filled as originally filed, is now not filled. These additions and deletions are made to provide improved description of the structure, and are understood by skilled artisans in the art. No new matter is added.

In view of the above, entry of the replacement sheets is respectfully requested.

The Office Action rejects claims 9 and 10 under 35 U.S.C. §103(a) over U.S. Patent No. 3,790,654 to Bagley ("Bagley") in view of U.S. Patent No. 4,834,640 to Inoue et al. ("Inoue") and U.S. Patent No. 1,973,428 to Comstock ("Comstock"); rejects claims 11-16 and 18 under 35 U.S.C. §103(a) over Bagley in view of Inoue and Comstock further in view of U.S. Patent No. 5,219,509 to Cocchetto et al. ("Cocchetto"); rejects claims 9 and 10 under 35 U.S.C. §103(a) over JP-2000-326318 in view of Bagley; and rejects claims 11-16 and 18 under 35 U.S.C. §103(a) over JP-2000-326318 in view of Bagley further in view of Inoue and Cocchetto. These rejections are respectfully traversed.

The Office Action acknowledges that Bagley does not disclose "a connection area ratio of the back hole and the cell block being 35 to 65%," as recited in the claims. However, the Office Action asserts that Bagley renders this feature obvious.

In particular, the Office Action asserts that Bagley discloses using tungsten, which is a cemented carbide. The Office Action further asserts that Bagley discloses desired rigidity at col. 2, lines 66-72. Thus, the Office Action asserts that it is obvious to acquire a specific "connection area ratio" to achieve the suggested rigidity for Bagley's cemented carbide. In this regard, the Office Action asserts that the recited percentage range of the connection area ratio is merely a range for the die to work. The Office Action further asserts that Bagley's die

should have similar percentage ranges, because Bagley's die cells do not break based on the suggested rigidity.

However, Bagley does not render obvious the feature "a connection area ratio of the back hole and the cell block being 35 to 65%." In particular, Bagley discloses the use of a cold rolled steel as a base plate forming a die. See col. 6, lines 12-17. Bagley suggests the possible use of ceramics such as tungsten carbide or alumina, in addition to the cold rolled steel. In this respect, Bagley does not realize the problem associated with the use of a material having a high hardness because Bagley nominates aluminum as a possible material for die. See col. 5, lines 35-45.

Bagley is silent as to the criticality of the connection area and the height of the cell blocks. The Office Action asserts that the recited parameters are merely a result of routine experiments. However, the criticality of the connection area has been demonstrated in data shown in Table 2 of the present application, and the height of the cell blocks has been demonstrated in data shown in Table 3. Furthermore, the criticality of the material for die has been also demonstrated in data shown in Table 1. In this respect, the controlling effects of the deviation in the shape of the extruded honeycomb structure exceed the expected level of routine experiments.

In view of the above, Bagley does not recognize the problems solved by the features recited in the claims. Bagley does not render obvious the subject matter recited in the claims without realizing the criticality of the features, such as, "a connection area ratio of the back hole and the cell block being 35 to 65%."

Also, Inoue, Comstock, Cocchetto, and JP-2000-326318 do not supply the subject matter lacking in Bagley. In particular, Inoue merely discloses the use, as a die, of an untempered steel with electric coating comprising cemented carbide. See claim 1 of Inoue. Cocchetto is silent as to the material to be used as plate.

JP-2000-326318 discloses the preference of the "super alloy." However, the objective is to provide a die capable of supplying thoroughly and evenly clay to be extruded all over the slits including those located at the specified positions P and R. See Fig. 18. The reason why the super alloy is used is to achieve accuracy among the first die forming material, the second die forming material, and the holed die forming material to retain precisely the predetermined dimensions. See paragraph [0035]. This is entirely irrelevant to the claimed subject matter of the present application.

In view of the above, Bagley, Inoue, Comstock, Cocchetto, and JP-2000-326318, either individually or in combination, do not disclose or suggest the subject matter recited in the claims. Also, one of ordinary skill in the art would not have been motivated to combine the above references to render obvious the subject matter recited in the claims, because, as discussed above, Bagley does not recognize the criticality of the feature "a connection area ratio of the back hole and the cell block being 35 to 65%."

For at least the above reasons, withdrawal of the rejection of claims 9-16 and 18 under 35 U.S.C. §103(a) is respectfully requested.

The Office Action provisionally rejects claims 9 and 10 on the ground of non-statutory obviousness-type double patenting over the claims of Copending Application No. 10/507,413 or Copending Application No. 11/186,970 in view of Bagley; and provisionally rejects claims 11-16 and 18 on the ground of non-statutory obviousness-type double patenting over claims of the Copending Applications in view of Bagley further in view of Inoue and Cocchetto. The time for filing a Terminal Disclaimer has not matured. Applicants will consider filing a Terminal Disclaimer, if necessary, at a later time.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Replacement Sheets

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